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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/800,862  | 03/16/2004  | Yoshitaka Ito        | 108043.02           | 1574             |
| 25944   | 7590        | 08/30/2004           | EXAMINER            |                  |
| OLIFF & BERRIDGE, PLC<br>P.O. BOX 19928<br>ALEXANDRIA, VA 22320 |             |                      | KOVAL, MELISSA J    |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2851                |                  |

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                |
|------------------------------|-----------------|----------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)   |
|                              | 10/800,862      | ITO, YOSHITAKA |
|                              | Examiner        | Art Unit       |
|                              | Melissa J Koval | 2851           |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 16 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. 09/774,796.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)                    4) Interview Summary (PTO-413)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                    Paper No(s)/Mail Date. \_\_\_\_\_.  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 3/16/04.                    5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/774,496, filed on February 1, 2001.

### ***Information Disclosure Statement***

The information disclosure statement filed July 17, 2002 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because The reference TW273600 is not clearly identified with the prior art of record filed in parent case 09/774,796. The IDS has been placed in the application file, but the information referred to therein regarding TW273600 has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

### ***Claim Objections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 is objected to under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, beginning in line 12, wherein the polarization selection surface is first introduced, the phrase "that emits the light toward the electro-optical device" is confusing, because it is not clear what component comprising the projector emits said light. The structural orientation of the polarization selection surface with respect to the other elements comprising the device, particularly with respect to the electro-optical element, is unclear. For example, reading the claim language it can be interpreted that the polarization selection surface is located both before and after, or in other words, at the incidence and emission sides of the elecro-optical device, yet the claim defines a single surface only. If the claim is trying to suggest that the polarization selection surface is located in either location, then the claim language does not properly suggest alternative embodiments.

Furthermore, with respect to the final section of claim 1, wherein X-axis direction and Y-axis direction are defined, further clarification is required. Theoretically, an X and Y axes or X and Y planes can be defined for any structure. It is not clear how the final paragraph of claim 1 adds limitations to the claim that may be patentably distinct.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in–  
(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or  
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Yamagishi et al.

Refer to Figure 19 of Yamagishi et al. for example. Refer to Figure 18 for a description of the elements comprising optical system 100.

Claim 1 sets forth: "A projector, comprising:  
a light beam dividing optical element that divides light from a light source into a plurality of partial light beams (integrator optical system 102);  
a polarization conversion element that converts the plurality of partial light beams into one type of polarized light beam polarized substantially in same directions (polarization separation section 103);  
an electro-optical device that modulates an illumination light beam emitted from the polarization conversion element (light valve 601);  
a projection lens that projects light modulated by the electro-optical device (projection lens 606); and  
a polarization selection surface that selects light of a predetermined polarized component included in the illumination light beam, that emits the light toward the electro-optical device, that selects light of a predetermined polarized component in the

light modulated by the electro-optical device and that emits the light toward the projection lens (Refer to incident-side polarizing plate 604 and outgoing-side polarizing plate 605.),

when a plane defined by a normal line of a polarization selection surface and a central axis of the illumination light beam is assumed to be a plane of incidence, a direction parallel to the plane of incidence and perpendicularly intersecting the central axis is defined as the X-axis direction, and a direction perpendicularly intersecting the plane of incidence is defined as the Y-axis direction, a direction of polarization beam separation by the polarization conversion element being the X-axis direction.

The claimed relationship between the X-axis direction and Y-axis direction for the elements comprising the projector is shown in Figure 19 of Yamagishi et al. as far as the terms and limitations of the claim language can be understood.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Yamamoto et al.

Refer to Figure 6 of Yamamoto et al. for example.

Claim 1 sets forth: "A projector, comprising:

a light beam dividing optical element that divides light from a light source into a plurality of partial light beams (fly eye lenses 44A and 44B);  
a polarization conversion element that converts the plurality of partial light beams into one type of polarized light beam polarized substantially in same directions (polarization beam splitter 50);

an electro-optical device that modulates an illumination light beam emitted from the polarization conversion element (any of reflection-type liquid crystal panels 52B, 52G and 52B.);

a projection lens that projects light modulated by the electro-optical device (projection lens 55); and

a polarization selection surface that selects light of a predetermined polarized component included in the illumination light beam, that emits the light toward the electro-optical device, that selects light of a predetermined polarized component in the light modulated by the electro-optical device and that emits the light toward the projection lens (Refer to both polarization separation elements 49 and 54.),

when a plane defined by a normal line of a polarization selection surface and a central axis of the illumination light beam is assumed to be a plane of incidence, a direction parallel to the plane of incidence and perpendicularly intersecting the central axis is defined as the X-axis direction, and a direction perpendicularly intersecting the plane of incidence is defined as the Y-axis direction, a direction of polarization beam separation by the polarization conversion element being the X-axis direction.

The claimed relationship between the X-axis direction and Y-axis direction for the elements comprising the projector is shown in Figure 6 of Yamamoto et al. as far as the terms and limitations of the claim language can be understood.

Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Iechika et al.

Refer to Figures 1 and 8 of Iechika et al.

Claim 1 sets forth: "A projector, comprising:

a light beam dividing optical element that divides light from a light source into a plurality of partial light beams (separation optical system 30);

a polarization conversion element that converts the plurality of partial light beams into one type of polarized light beam polarized substantially in same directions (polarization conversion optical system 60);

an electro-optical device that modulates an illumination light beam emitted from the polarization conversion element (liquid crystal light valves 300R, 300G and 300B, Figure 8 of Iechika et al.);

a projection lens that projects light modulated by the electro-optical device (projection optical system 340, Figure 8 of Iechika et al.); and

a polarization selection surface that selects light of a predetermined polarized component included in the illumination light beam, that emits the light toward the electro-optical device, that selects light of a predetermined polarized component in the light modulated by the electro-optical device and that emits the light toward the projection lens (Refer to column 14, lines 62 through 65, of Iechika et al.),

when a plane defined by a normal line of a polarization selection surface and a central axis of the illumination light beam is assumed to be a plane of incidence, a direction parallel to the plane of incidence and perpendicularly intersecting the central axis is defined as the X-axis direction, and a direction perpendicularly intersecting the plane of incidence is defined as the Y-axis direction, a direction of polarization beam separation by the polarization conversion element being the X-axis direction." The X

and Y planes as shown in Figure 8 of Iechika et al. meet the limitations of claim 1 as far as the terms and limitations of the claim language can be understood.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyake et al.

Refer to Figure 2 of Miyake et al.

Claim 1 sets forth: "A projector, comprising:

a light beam dividing optical element that divides light from a light source into a plurality of partial light beams (integrator 3);  
a polarization conversion element that converts the plurality of partial light beams into one type of polarized light beam polarized substantially in same directions (incident side polarizing plate 109);  
an electro-optical device that modulates an illumination light beam emitted from the polarization conversion element (LC display device 106);  
a projection lens that projects light modulated by the electro-optical device (projection lens 127); and

a polarization selection surface that selects light of a predetermined polarized component included in the illumination light beam, that emits the light toward the electro-optical device, that selects light of a predetermined polarized component in the light modulated by the electro-optical device and that emits the light toward the projection lens (outgoing side polarizing plate 110),

when a plane defined by a normal line of a polarization selection surface and a central axis of the illumination light beam is assumed to be a plane of incidence, a direction parallel to the plane of incidence and perpendicularly intersecting the central axis is defined as the X-axis direction, and a direction perpendicularly intersecting the plane of incidence is defined as the Y-axis direction, a direction of polarization beam separation by the polarization conversion element being the X-axis direction."

With respect to the final paragraph of claim 1 above, Miyake et al. defines a "normal direction" in column 6, lines 54 through 60 rather than referring to X and Y-axes. The existence of X and Y-axes in any at least two-dimensional structure is notoriously well known to one having ordinary skill in the art. The definition of X and Y-axes in claim 1 does not define an unexpected result to the extent that the terms and limitations of the claims can be understood. It would have been obvious to one having ordinary skill in the art to define an X and Y planes as reference points, however the assignment of either X or Y to a particular plane in claim 1 seems to be arbitrary.

### ***Conclusion***

This is a continuation of applicant's earlier Application No. 10/196,249 now U.S. Patent 6,729,730. All claims are drawn to the same invention claimed in the earlier

application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa J Koval whose telephone number is (571) 272-2121. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJK  
August 11, 2004



JUDY NGUYEN  
PRIMARY EXAMINER